

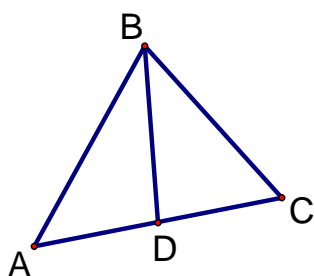
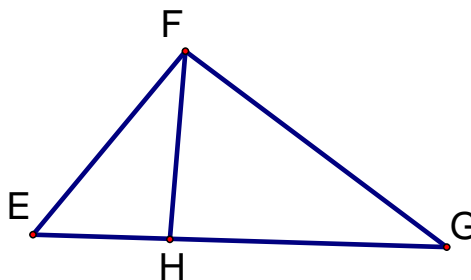
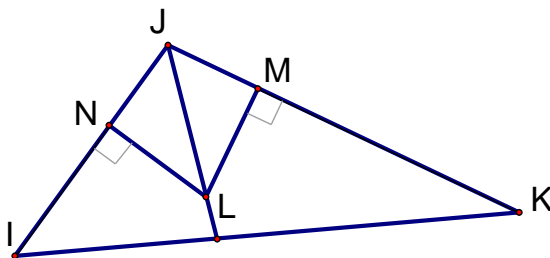
Name _____

Date _____

201 Ch 5 Review

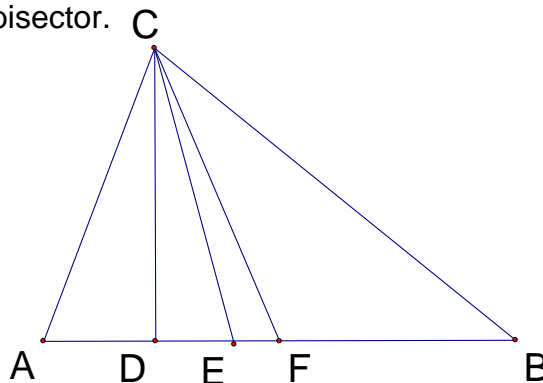
1. _____ What center is formed by the 3 altitudes of a triangle?
2. _____ What center is formed by the 3 medians of a triangle?
3. _____ What center is formed by the 3 perpendicular bisectors of the sides of a triangle?
4. _____ What center is formed by the 3 angle bisectors of a triangle?

Mark the following pictures with what you know to be true based on the given information. (either right angles or congruent segments or angles)

5. \overline{BD} is a median of $\triangle ABC$.6. \overline{FH} is an altitude of $\triangle EFG$ 7. \overline{JL} bisects $\angle IJK$.

Use the following diagram for #s 8-10.

Given: $\overline{AB} \perp \overline{CD}$, $\angle ACE \cong \angle BCE$, and $\overline{AF} \cong \overline{BF}$. Identify each segment as median, altitude, angle bisector, or perpendicular bisector.

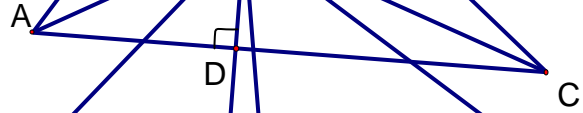
8. _____ \overline{CE} 9. _____ \overline{CF} 10. _____ \overline{CD} 

11. G is the incenter.

x = _____

$$\begin{aligned} AG &= 15 \\ GF &= 10 \\ DG &= 2x + 1 \end{aligned}$$

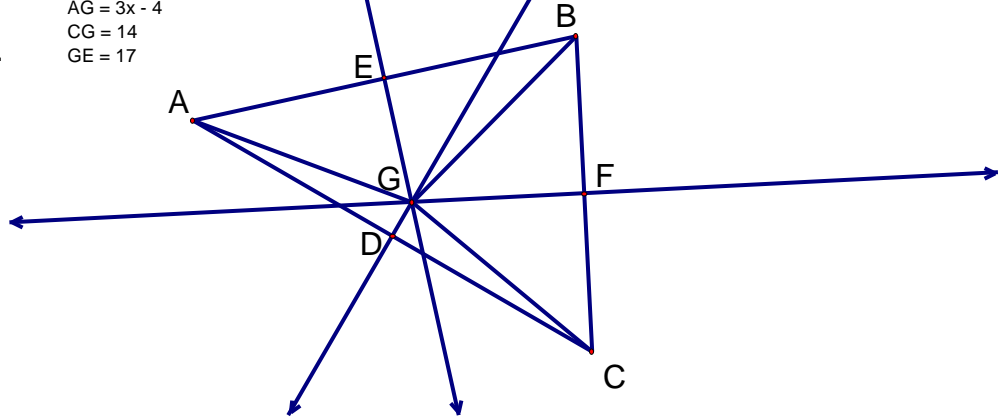
Mrs. Hayden



12. G is the circumcenter.

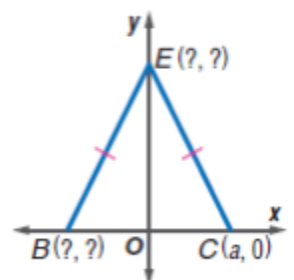
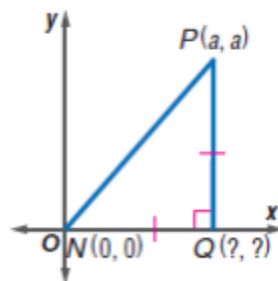
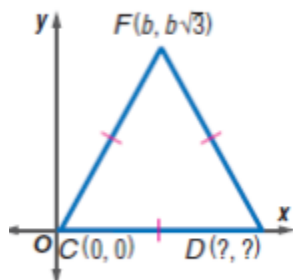
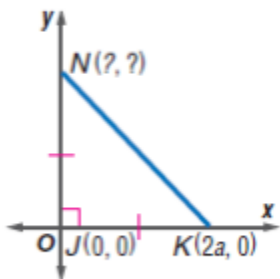
x = _____

$$\begin{aligned} AG &= 3x - 4 \\ CG &= 14 \\ GE &= 17 \end{aligned}$$



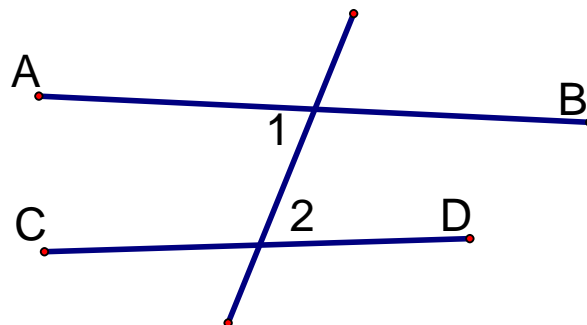
13. Find the coordinates of the centroid of $\triangle ABC$. Given A(-5, 3) B (1, 9) C(7, 3).

14. Find the missing coordinates of each triangle.



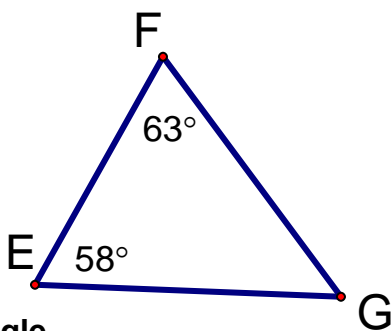
15. Complete the following indirect proof.

Given: $\angle 1$ and $\angle 2$ are not congruent
 Prove: \overline{AB} and \overline{CD} are not parallel.



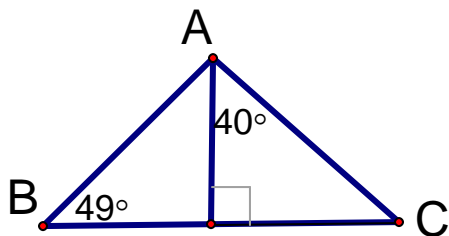
Name the shortest segment.

16. _____

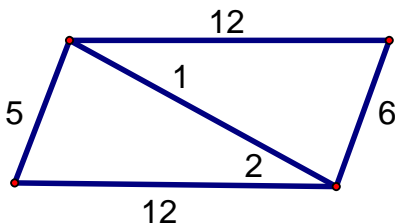


Circle the larger segment or angle.

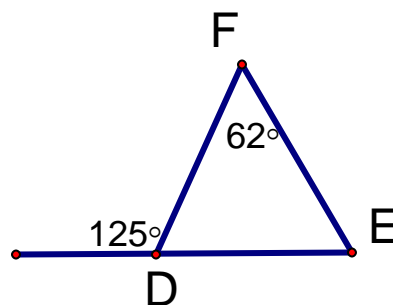
17. \overline{AB} or \overline{AC}



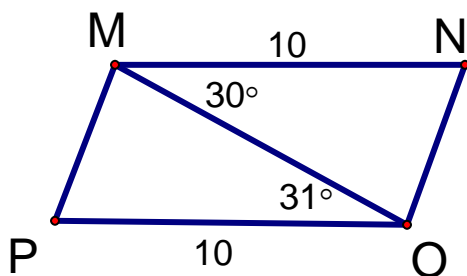
18. $\angle 1$ or $\angle 2$



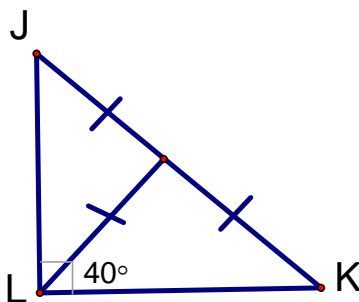
19. \overline{DF} or \overline{EF}



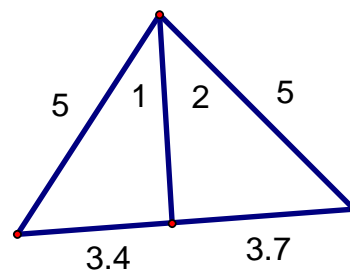
20. \overline{MP} or \overline{NO}



21. \overline{JL} or \overline{LK}

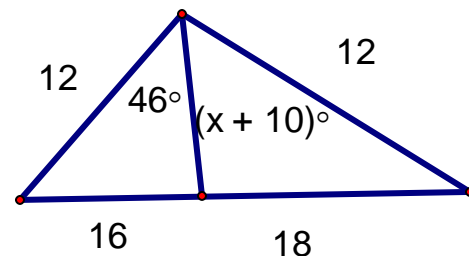
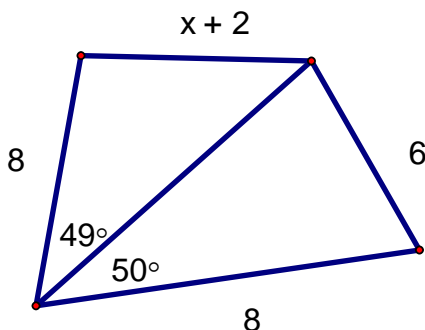
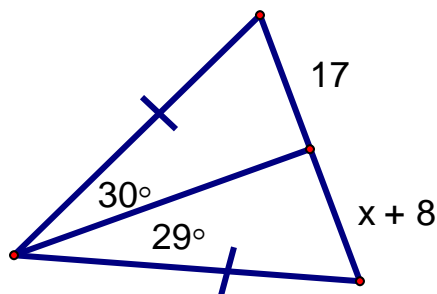


22. $\angle 1$ or $\angle 2$



Write an inequality to describe the possible values of x .

23. _____ 24. _____ 25. _____



Is it possible for a triangle to have sides with the lengths indicated?

26. _____ 13, 15, 20

27. _____ 6, 6, 11

28. _____ 4, 9, 13

29. Two sides of a triangle are 7 and 9. What is the range for the 3rd side?

_____ < x < _____

30. Complete the following statements so that they would be justified by an inequality theorem. (Hinge Theorem, Converse of Hinge Theorem, triangle inequality theorem, Theorems 5.10 and 5.11, or the exterior \angle inequality theorem.)

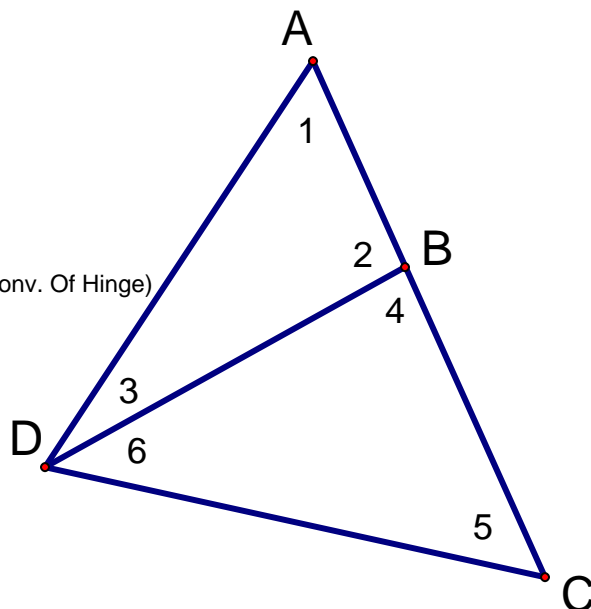
a. If $m\angle 4 > m\angle 5$, then _____ > _____. (thm. 5.11)

b. If $m\angle 1 > m\angle 5$, then _____ > _____. (thm. 5.11)

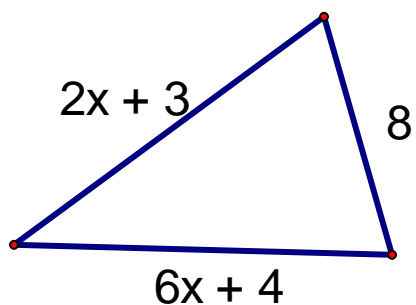
c. If $AD = DC$ and $AB < BC$, then _____ > _____. (Conv. Of Hinge)

d. $AC + DC > \underline{\hspace{1cm}}$. (Triangle ineq.)

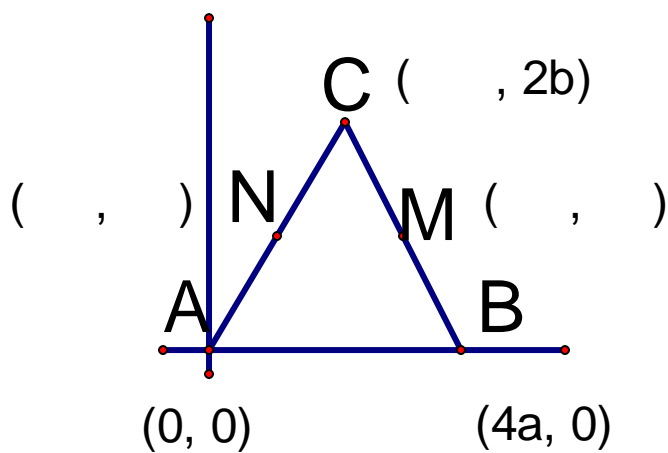
e. $m\angle 2 > \underline{\hspace{1cm}}$ or _____. (Ext. angle ineq.)



31. Describe the possible values for x .

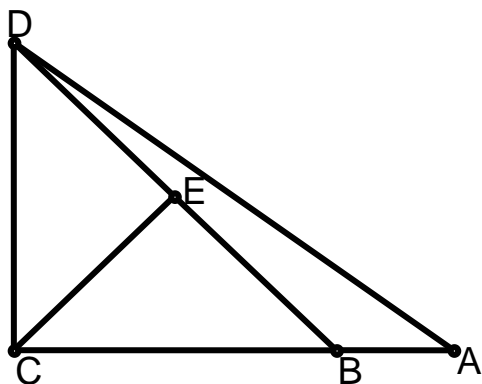


32. Do the following coordinate proof.



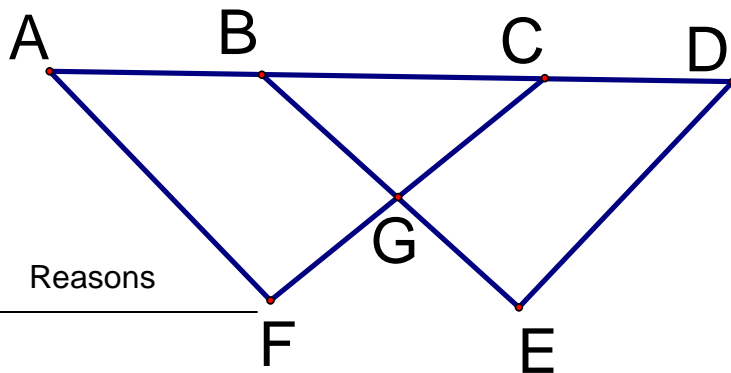
Given: Isosceles $\triangle ABC$, where
 M and N are midpoints of the
legs.
Prove: $AM = BN$

33.

Given: $EC = EB = ED$; $m\angle CEB > m\angle CED$ Prove: $AC > CD$ 

Statements

Reasons

34. Given: $AB > DC$; $AF = DE$;
 $FC = EB$;Prove: $m\angle AFC > m\angle DEB$ 

Statements

Reasons